

# AMERICAN FRUIT GROWER

SEPTEMBER

1938

NATIONWIDE APPLE VARIETY SURVEY  
IN THE OCTOBER PLANTING GUIDE ISSUE

# A POTATO FORK COSTS LESS THAN A POTATO DIGGER

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BY HAND?

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# Firestone

GROUND GRIP TIRES

SEPTEMBER

VOL. 58

1938

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# AMERICAN FRUIT GROWER

*The*  
NATIONAL FRUIT MAGAZINE

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## AMERICAN FRUIT GROWER

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## PROPER MARKING—PROFITABLE MARKETING

**I**N actual practice, the maintenance of successful standardization hinges on proper branding. Without honest labeling of fruit packages, standardization, being sought by progressive growers' groups, cannot become a working reality.

Growers have repeatedly told us that factual labeling is bound to come with laws of standardization. But why, we ask, wait for force? Isn't it better to bring about a healthy condition of fruit marketing by self-will rather than by action of law? Apparently some growers have not acted toward fulfillment of the answer to this question, for many states have already enacted and are enforcing stricter standardization laws and other states are instigating action for passage of such regulatory measures during current legislative sessions.

Under the standardization laws of one midwestern state, growers are required to brand each package with their name and address, the variety, minimum size, net weight or numerical count of the contents, and the grade thereof.

While most growers have centered their labeling and marking attention on state or local marketing laws, those whose fruit moves through interstate marketing channels are alert to provisions of the Federal Food and Drug Act. Under provisions of this law, if fruit packages are branded with a grade statement this must not be false or misleading in any particular. Should mislabeled fruit be found by the U.S.D.A., action may be taken either against the product which is seized, confiscated and either destroyed or given to some charitable institution, or against the individual grower or shipper resulting in fines of \$200 maximum for the first offense and \$300 minimum with possible imprisonment up to one year for subsequent offenses.

We contend, then, that it is up to the individual to so mark his packages as to maintain efficient marketing. Recently, H. M. Newell, Division of Markets superintendent, Illinois Department of Agriculture, aptly said:

"While at times the marking and branding problem may be rather serious to the individual grower, I believe that most of us will agree that it is not as serious a problem as we have in the spray residue question. In other words, correct branding is a matter that is easily accomplished if the grower is willing to give a little time and attention to the question. It is true that we frequently hesitate to mark fruit as unclassified or as utility when it is only a little ways below No. 1 grade. If our fruit industry is to prosper it must subscribe to the theory that the buyer is entitled to a true statement concerning the grade of the package and that even a relatively small variation from the truth in this respect weakens the confidence of the buyer in the pack of individual growers and in the producing sections which those growers represent."

# "NO TIME TO PAMPER 'GET-BY' TRACTORS"

—DECLARES C. M. LaFOLLETT, FRUIT GROWER  
AND FARMER, MARION COUNTY, OREGON



"A man who uses his one tractor but little," states C. M. LaFollett, Marion County, Oregon, "and carefully cares for it himself may 'get by' even if unfortunate enough to own one of inferior make.

"But when he owns and keeps several tractors busy, as I do, and has to depend largely on hired help, then the kind of tractor he buys becomes of real importance.

#### LONG TIME "CATERPILLAR" OWNER

"That's why I have for a long time bought and used 'Caterpillar' track-type Tractors. Their dependability plus the advantage of Diesel fuel economy accounts for my purchase, this spring, of 2 'Caterpillar' Diesel D2's.

#### FIGURES \$900 YEARLY SAVINGS!

"Pulling the same loads in the same ground as my gasoline tractor, each Diesel D2 burns only 7½c worth of fuel per hour — saving 23c every hour. Operating our usual 200 days, each Diesel D2 should save me \$450 per year."

Low, compact, prompt to answer convenient steering levers — the 5-speed, 3-4 plow Diesel D2 has surplus power and traction to hustle big loads of fruit from even the muddiest, hilliest orchard — or to pull heavy-duty tools to fit your orchard for winter. And built to do more work per year *for more years* at the lowest operating cost on record!

#### "GROW THEM RED"

LIKE many another grower, Russell D. Sage of Burt, N.Y., heard time and again the advice of marketing experts, "If you are growing red apples, grow them red!"

Seeking to work out some method whereby his apples, especially McIntosh, could be colored well, Sage recalled that his grandfather used to place apples in piles around the orchard to save hauling and sorting in small quantities. Top layers of fruit in these piles were always well colored.

Sage called into his confidence grower-neighbor Carl Ward and the two decided that apples could be laid on straw under trees and the same coloring results obtained. For the first trial, McIntosh were spread under the trees for 12 days. The resulting increased color raised the fruit from commercial grade to fancy.

Several other methods were then tried, such as placing colored wire-supported cheesecloth over the fruit, and putting the apples under snow fencing with the slats running north and south. The latter arrangement allowed eight minutes of sun and eight of shade between each slat. But these methods were expensive and some wrinkling of the skin developed.

Sage has concluded that the straw mulch method is most satisfactory. The mulch holds moisture for the trees, adds humus, and protects apples that fall before and during harvest. It encourages pruning, for the trees must be pruned heavy enough to allow broken shadows. Sage discovered that mulching the trees two to four weeks before harvest permits the straw to settle so the apples do not become embedded. He urges use of clean straw as it is lighter in color and results in better sun-ray reflection. Drops in the Sage orchard are picked up each day and placed under a separate tree. A ready market is usually found for them or they are placed in cold storage.

Apples must be kept well under the northeast, north, and northwest sides of trees to prevent direct rays of the sun reaching them. This placement under trees gives the alternate sun and shade needed for best results.

For 100 per cent color, the apples are turned after an exposure of six or seven days. In his four years of sun coloring experience, Sage has found that his sun-colored McIntosh have sold for 25 to 50 cents more per bushel, that the method helps him to get all his apples picked before they loosen up and fall, and that the fruit in cold storage keeps equally as well as or better than the poorly-colored fruit not sun treated. His advice to those seeking better color is, "Get as much color while on the tree as possible, then finish under the tree."

# CATERPILLAR

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Size of orchard \_\_\_\_\_

University of Idaho \_\_\_\_\_

Name \_\_\_\_\_ LIBRARY \_\_\_\_\_ R. F. D. \_\_\_\_\_

MOSCOW IDAHO

County \_\_\_\_\_

State \_\_\_\_\_

# PEACH PROGRESS

America's leading stone fruit specialist tells of important developments in the peach industry. The article is a digest of an address by Dr. F. P. Cullinan of the U.S.D.A. before the State Horticultural Association of Pennsylvania.

MUCH of the acreage set to new peach varieties is to replace orchards which have gone out on account of age and injury following cold winters of more recent years. In addition, of course, there is some new planting.

Among the older varieties, there is no outstanding commercial freestone coming in ahead of Golden Jubilee. Golden Jubilee is one of the best early freestones, and where it can be well grown it is of good quality and size. During recent years, a number of varieties of promise coming in after Golden Jubilee and ripening up to the Elberta season have attracted attention. These are, in order of ripening at our station during the 1937 season, Golden Globe, Maxine, Eclipse, Golden East, Vedette, Halehaven, July Elberta, Valiant, and Veteran.

In nearly all peach growing sections of the eastern United States, peach trees will not make satisfactory growth unless there are fairly liberal supplies of available nitrogen in the soil. In years past this nitrogen has been obtained by growing peach trees principally through cultivation of the soil. This continual stirring of the soil, resulting in the breakdown of the organic matter and the release of

soluble nutrients, has supplied the nitrogen requirements of the trees.

In most of our soils, however, sufficient nitrogen for the best tree growth cannot be obtained through cultivation alone. Growers have also supplied the nitrogen requirements of peach trees with applications of barnyard manure. Under such a treatment peach trees do very well, but this source of nitrogen is no longer available in sufficient quantities and the peach grower must rely upon annual applications of some of the inorganic sources, such as nitrate of soda, sulphate of ammonia, or cyanamid.

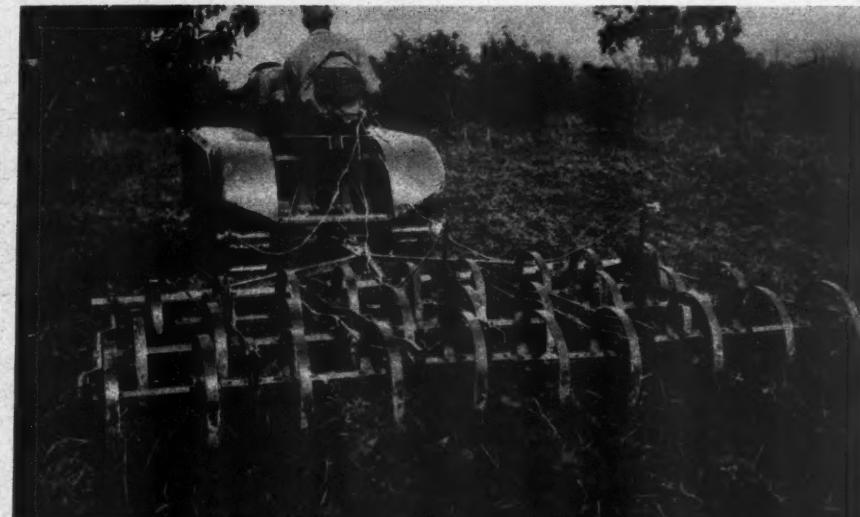
The certainty of annual crops cannot be predicted with the peach to as great an extent as with the apple. It may be good economy, therefore, to wait and see how the buds survive the winter temperature before applying fertilizers. We know that when nitrogen is applied to peach trees in the fall some of it is taken into the roots and stored there. In early spring an increase in nitrogen content can be determined in the new twigs.

There has been considerable experimental evidence in recent years to show that applications of a readily available form of nitrogen, if applied while trees are in bloom, or even three to four weeks later, will not seriously affect color of the fruit. On the contrary, in order to obtain satisfactory terminal growth and to produce vigorous leaves, which are so essential in producing color of fruit, nitrogen is needed.

I think we can be quite safe in saying that it is not necessary to cultivate the peach orchard as frequently as has been done in the past in some of our

(Continued on page 9)

Left — Spring-tooth harrow being drawn by tractor power in a Michigan peach orchard. Peach soils are cultivated less frequently these days. Left, below—Preparing cover crop seedbed in peach orchard. Below—Since leaf area is likely to be inadequate, even when medium cropping occurs, peach thinning is usually a necessity.





## GRAPES

### JUICE CO-OP

Three years ago growers in the vicinity of Westfield, N. Y., organized Westfield Co-operative Fruit Products, Inc. First move of the organization was to take over the plant of a meat packer who had ceased operations in Westfield and convert it into a fruit processing plant. Today the line of fruit products sold by the group ranges from bottled and canned grape juice to currant jelly juice, and it even includes frozen cherries, raspberries, strawberries, currants, and grapes.

Membership of the co-op is made up entirely of growers and represents 1,000 acres of grapes, 300 acres of tomatoes, and smaller acreages of cherries, strawberries, and raspberries. The officers elected each year by the 60 co-op members have jurisdiction over processing plant operations. Only producers may own stock.

Distinction already gained by this

Bing cherry shown above is a variety that often cracks. Development of cherry marmalade base to use cracked fruit is described in article at right.

group is the fact that it is the first organization to produce and sell grape juice in retail tin containers and also the first to use the "stubby" bottle for the same product. The introduction of grape juice in cans resulted from exhaustive research on a type of can which would hold the juice without deterioration.

Most popular of the co-op products are grape juice, tomato juice, and canned tomatoes. Besides the grape juice in bottles, the organization processes and sells bottled apple cider.

In addition to the plant which consists of four floors, each 140 by 200 feet, a power house, and boiler room, the co-op maintains two warehouses, one 130 by 80 feet in size, the other, 140 by 40 feet.

## BERRIES

### ROOT GROWTH CHECK

One of the most interesting experiments being carried on regarding the relation of fruit plants to soil is a series of observation tests now in progress at the Ohio Agricultural Experiment Station. At present, Dr. Leon Havis has excavated trenches, as deep as six feet, across raspberry rows. The trenches are about two and one-half feet in width. On each side of the trench, cord is tied in a pattern of squares. By charting these squares and indicating location of roots, facts for fertilization, irrigation, and drainage recommendations are obtained.

Left—Canned grape juice in retail size now being offered by Westfield, N.Y., grower co-op. Right—Looking into raspberry trench at Ohio Experiment Station.

AMERICAN FRUIT GROWER



## CHERRIES

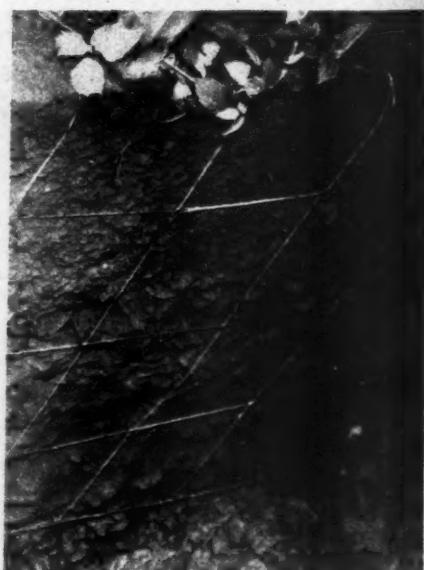
### MARMALADE BASE

Disposal of cracked cherries has long been a problem in the Northwest, where from 1928 to 1932 the production of cherries in the three states of Washington, Oregon, and Idaho averaged 27,000 tons a year. Frequent rains at harvest time have often meant losses to growers because of the cracking.

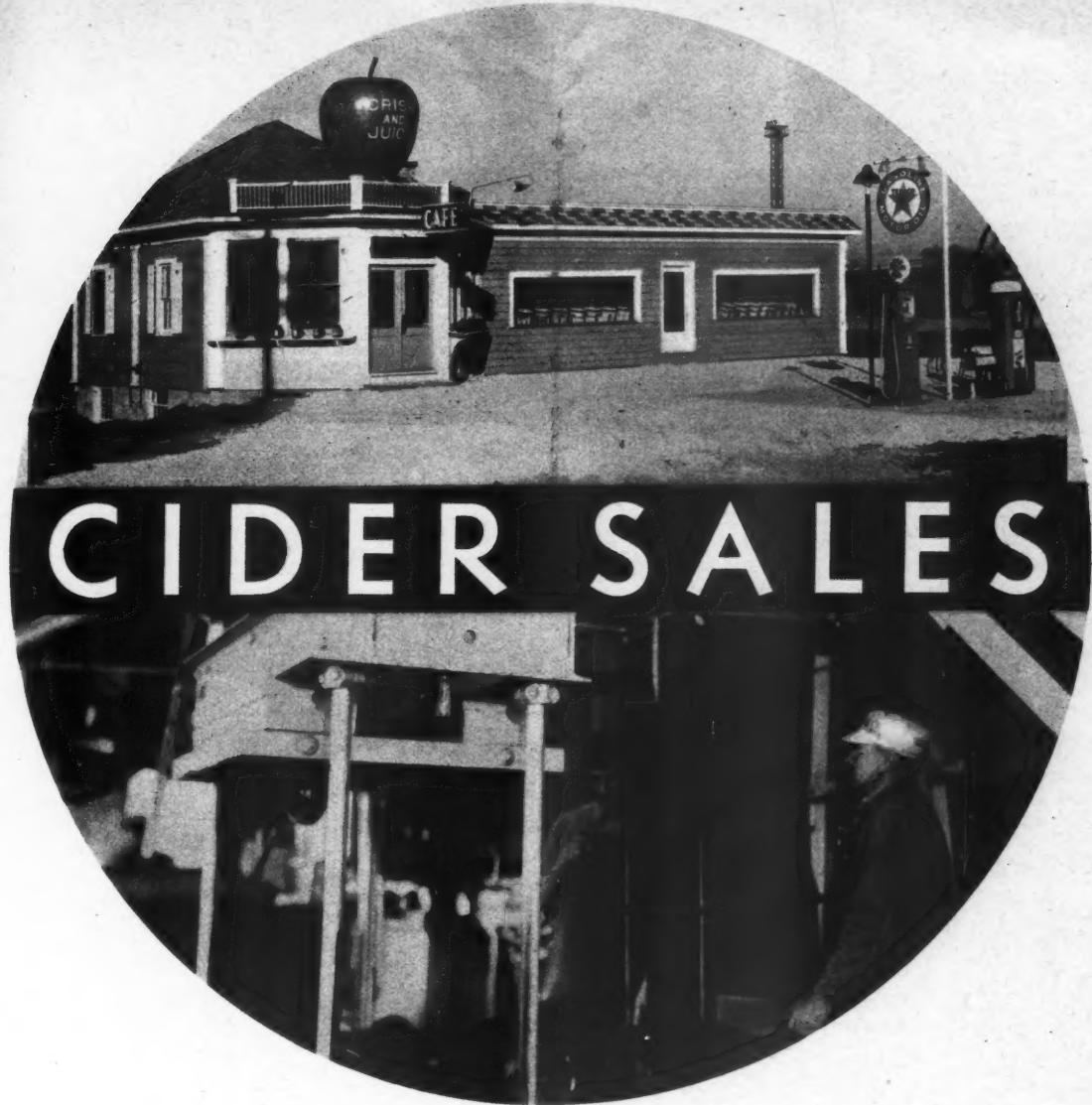
From P. D. Isham and H. H. Mottern of the U.S.D.A. laboratory at Pullman, Wash., now comes word that these cracked cherries are usable for by-products, outlets that will return some of the cost of production in years when cracking is severe enough to ruin large portions of the crop.

Outstanding of the products is a marmalade base made by blending sour cherry pulp with sweet cherry pulp at the ratio of one to two or one to three and adding citric acid at the rate of one-tenth ounce per pound.

(Continued on page 15)



SEPTEMBER, 1938



**A super cider salesman tells how to keep the cash register tinkling by applying up-to-the-minute methods of processing . . . pointers, too, on off season sales . . .**

AT horticultural society meetings, at regional extension sessions, wherever fruit growers meet to discuss production and marketing problems, there's always one grower who is ready to talk about cider. G. Leslie Smith, last year's president of the Illinois State Horticultural Society, has been boosting cider production and sales for the past 15 years and says that today there are more new facts on the processing of apple juice than ever before.

And Smith should know. He's considered a cider booster in many sections, particularly in the Midwest. During luncheons, banquets, and business sessions of the society meetings that he attends you are likely to find Smith enthusiastically discussing cider with fellow fruit growers, obtaining information that he feels will be helpful in his operations.

Each year, upwards of 10,000 gallons of cider are produced and sold by Smith at his Apple House in Rock Island. He has tried every known processing method during his 15 years of cider experience.

Most of Smith's sales are in the fall and winter months from a glass-lined tank in his cold storage. Blended apple juice is pumped directly from press to tank, then dispensed to customers by hose through the storage wall. More than 80 per cent of the customers, he says, bring their own containers and invariably they are one-gallon glass jugs.

On the subject of processing, Smith has this to say: "As for sale of the product during the season when apples for cider are not available, we originally used the in-the-bottle pasteurization after clarification with pectinol 'A.' Cooked flavor was somewhat apparent and aroma and flavor of the fruit product were lacking. At that our pasteurized

cider was pronounced the best on the market by an eastern experiment station that had made extensive research in cider."

The in-the-bottle method was used for three years by Smith. Then he switched to a tubular flash pasteurizer, a unit that permits rapid processing and bottling. But there was still lacking the original juice flavor.

Continuing trial and observation, Smith eventually discovered that air in the pasteurizing unit and in the juice itself, added to slow cooling after treatment, accounted for loss of aroma and flavor.

So now, Smith and his cider workers have installed a deaerator and added a cooling section to the flash pasteurizer. By the revamped process, cider is flashed to 185 degrees for 20 seconds, then quickly cooled in the cold water bath section of the tubular pasteurizer. Deaeration is then accomplished in an aluminum tank at 28 to 29 inches vacuum; the cider is flash pasteurized again at 180 degrees, then filtered, bottled hot, and quickly cooled with a water spray. The first flash heating is for coagulation of suspended particles in the juice and can be eliminated when pectinol "A" is used.

Above, top—Attractive roadside sales-room of G. Leslie Smith near Rock Island, Ill., which serves as one of his retail cider outlets. Above, bottom—Press and other units made sanitary and pleasing to the eye by aluminum paint.

AMERICAN FRUIT GROWER

# STATE NEWS

**WASHINGTON**—Buying their social security through the channels of advertising, Washington apple growers have definitely increased the sale of apples and created a direct consumer demand for them. This has been revealed by a survey of retailers and consumers in 14 advertising and seven non-advertising cities made at the close of the last apple season and reported by Secretary-Manager C. E. Chase in his annual report to the Washington State Apple Advertising Commission.

Mr. Chase's report shows that the commission collected \$218,961.27 during the 1937-38 season, spent \$178,253.76 for advertising, \$18,876.26 for office and general expense, and had \$21,031.25 cash on hand August 10, 1938.

Expenditure for newspaper advertising space totaled \$38,363; outdoor advertising, \$36,773; magazines, \$34,768; radio, \$22,756; dealer service, \$16,788; display material, \$14,847; research, \$6,599; trade papers, \$6,005; advertising preparation, \$5,846; consumer and Dr. Manville booklets, \$4,091 (25,000



copies of a 96-page booklet entitled, "A Digest of Scientific Literature Concerning the Apple—Its Nutritive and Therapeutic Values," prepared under Dr. Ira Manville's direction, have been distributed to physicians and others interested).

It cost \$5,396 to collect one cent per hundred pound tax, \$8,821 for office expenses, and \$4,229 for general expenses.

Activities of the commission included cooperation with other apple advertising groups through the National Apple Institute in working out favorable legislation in advertising apples. In connection with spray residue problems, it has worked not only with the NAI but also with the International Apple Association and the U.S. Public Health Service.

**NEW JERSEY**—Lester Collins of Moorestown has been elected president of the New Jersey State Board of Agriculture at Trenton, succeeding Herman C. Demme of Sewell. A former president of the New Jersey State Horticultural Society, Collins is a pioneer in exporting apples and pears to Europe. He operates cranberry and blueberry holdings as well as orchards.

**ILLINOIS**—To see how things are done out West, G. Leslie Smith, 1937 president of Illinois State Horticultural Society, motored through the principal fruit producing areas of the Pacific Coast and also visited apple juice plants.

Mr. Smith recently installed a supercentrifuge in conjunction with his flash pasteurizing plant on his orchard in Rock Island. One of his products is apple wine, similar to a fermented apple juice proving very popular in England. A fine crop of apples is in prospect on Smith's "Red Apple" Fruit Farm.

O. G. Jones, vice-president of the society, after his tour of the West this season visiting California and the western apple section, should have some interesting things to tell society members at meetings this winter.

Long, interesting, and active was the fruit growing career of L. R. Bryant of Princeton, who died on August 5 at the age of 90. Out-

standing as a leader in horticultural affairs of the State, Mr. Bryant had operated the Bryant Orchards for many years, was a life member of the Horticultural Society of Northern Illinois and had served in every office of that association. He was also a life member of the Illinois State Horticultural Society and had served as secretary for that body. In 1895 he was one of the 11 founders of the International Apple Association.—JOE B. HALE, Sec'y, Kell.



**MICHIGAN**—Following the harvest from southern Michigan to the northern part of the State a motorized laboratory is assisting in the cherry fruit fly inspection work being carried on in 19 counties this year by the State Department of Agriculture.

The flies, which are the cause of maggots in cherries, leave their underground tunnels, where they have been dormant during the winter, in late spring, time of flight depending upon weather conditions. Cages are established to note the first emergence of the fly and these dates are used by experiment station entomologists in setting the first and second spraying dates. For Oceana County cages are located in the Hawley orchard at Shelby and Peter Hansen orchard at Hart.

Michigan is winning in the campaign against the fly with a total number of infested properties reduced in 1937 to 234 from the preceding year's total of 299.

## Calendar of Coming MEETINGS and EXHIBITS

- Oct. 25-27—Minnesota State Horticultural Society and Minnesota Fruit Growers Association annual meetings, Red Wing.—J. D. WINTER, Sec'y, Growers Assn., Mound.
- Nov. 10-13—Iowa State Horticultural Society 73rd annual convention, with affiliated societies, Savery Hotel, Des Moines.—R. S. HERRICK, Sec'y, State House, Des Moines.
- Nov. 16-17—South Dakota State Horticultural Society winter meeting, Radison Hotel, Aberdeen.—W. A. SIMMONS, Sec'y, Court House, Sioux Falls.
- Nov. 30-Dec. 1-2—Tennessee State Horticultural Society annual meeting, in conjunction with American Pomological Society annual convention, Hotel Patten, Chattanooga.—G. M. BENTLEY, Sec'y, Knoxville.
- Dec. 1-2—Kansas State Horticultural Society annual meeting, Topeka.—GEO. W. KINKEAD, Sec'y, Topeka.
- Dec. 2-3—Montana State Horticultural Society annual meeting, Kalispell.—GEO. L. KNIGHT, Sec'y, Missoula.
- Dec. 6-8—Michigan State Horticultural Society annual meeting, Civic Auditorium, Grand Rapids.—H. D. HOOTMAN, Sec'y, East Lansing.
- Dec. 6-8—Oregon State Horticultural Society annual meeting, Eugene.—O. T. McWHORTER, Sec'y, Corvallis.
- Dec. 7-9—New Jersey State Horticultural Society annual meeting, Haddon Hall, Atlantic City.—A. J. FARLEY, Sec'y, New Brunswick.

AMERICAN FRUIT GROWER

**MINNESOTA**—A poor apple harvest in Minnesota is indicated by growers' reports, with Northwestern Greening showing up best in yield in the southern section of the State.

New officers of Head-of-the-Lakes Fruit Growers Association at Duluth: Frank Schulte, president; Hughie Viou, vice-president; John Larsen, treasurer; D. T. Grussendorf, re-elected secretary. Directors for 1938: John Anderson, Mrs. A. J. Nyquist, Oscar Rudd, George McClelland, Carl Gilberg, Henry Verecken.

President Schulte reports completion of a new platform and receiving station on the association's trackage property in readiness for the 1938 crop.

Growers attending Minnesota Fruit Growers Association summer meet at the University of Minnesota Fruit Breeding Farm had the opportunity to see the new rototiller in operation. One of the State's leading commercial strawberry growers has just completed two years' use of this type cultivator. He finds it is much superior to anything he has used previously.—J. D. WINTER, Sec'y, Mound.



**CALIFORNIA**—In each box of California fresh Bartlett pears being shipped during the 1938 season, which will carry through the month of October, one pear in the top row is being wrapped in a special colored wrapper carrying instructions to the dealer on the best methods of handling, ripening, and displaying the fruit.

This effort to educate dealers is part of a large-scale advertising drive to promote the sale of California Bartletts in principal markets of the nation, being conducted under leadership of the California Fresh Bartlett Advisory Board.

A manual on proper methods of handling, ripening, and merchandising fresh Bartletts has been furnished dealer service men as an aid in their contacts with the wholesale and retail trade.

The newspaper, outdoor, and car and station poster advertising campaign is being supplemented by more than half a million pieces of display material for retail stores.

**INDIANA**—Agricultural organizations of the State are co-operating with the State Fair Board in the construction of an exhibit at the State Fair (September 3-9) which will present a cross-section of Indiana agriculture.

The exhibit will be placed in a refrigerator 50 feet long and will show typical meals for the four seasons of the year. The fruits, vegetables, and meats composing the sample meals will be those available at the particular season represented, and additional produce in the background will show other sources which may be drawn upon to lend variety to the meals. Temperature in the refrigerator will be below freezing so that out-of-season produce can be shown in fresh condition.

Fire blight is prevalent in Indiana orchards this season. Growers who have consistently applied the early blossom sprays of weak Bordeaux report only a light infection if any. This has been the story in more than one season and in a number of orchards. Many a grower has vowed to apply a blossom spray in 1939 and in the years to come.—R. L. WINKLEPLECK, Sec'y, Lafayette.

SEPTEMBER, 1938

## PEACH PROGRESS

(Continued from page 5)

important peach growing sections. There are certain definite advantages in the use of cover crops in the peach orchard. Where soils are not of sufficient depth to store large quantities of water in winter and early spring, and thus are not able to support the growth of the tree and cover crops during the summer months, certainly a winter cover should be used, not only for its beneficial effect in preventing erosion, but also for its nutritional value to the trees when disked under each spring.

The cover crop also serves an important function in utilizing mineral elements, particularly nitrate nitrogen, and thus reduces the leaching of these materials from the soil in winter. It is a conservation process, since these materials are made available to the tree upon decay of the plants.

Experimental evidence indicates that we probably cannot expect to increase the organic matter content of the soil, but if by soil management practices we are able to maintain the level of organic matter originally present in the soil, or prevent its too rapid destruction and loss, the use of cover crops will be well worth while.

The problem in the old peach orchard is somewhat different from that in the young orchard. If considerable top soil has been lost by years of cultivation, it may be difficult to obtain a good stand of a cover crop. Whatever the cover crop used, it should be seeded in time to obtain a fairly good top growth before being checked by cold weather.

Fertilization of the cover crop to obtain a good growth is quite important. The same fertilizer practice that has been found necessary to obtain the best growth of the cover used when grown outside the orchard should likewise be used to obtain the best growth of this cover when used in the orchard. A good growth of cover has been obtained in old peach orchards where a fertilizer high in nitrogen and phosphorus has been used at the time of seeding.

If erosion has been rather severe in an old peach orchard, the use of mulching material brought into the orchard might well be considered as a means of preventing further erosion and thus aid in moisture conservation through the effect of the mulch.

As the peaches increase in size or volume during growth, the ultimate size will in large part be determined by the number of fruits carried on the tree. Under conditions favoring abundant blossoming and a heavy set, volume increase during the first growth stage may not be as great as where the set is lighter.

A heavy set of fruit on a peach tree constitutes a considerable drain on the nutrients; hence, if too many fruits are allowed to develop, there may not be sufficient nutrients to take care of the growth of all the fruits and at the same time provide for adequate shoot growth and the production of leaves; consequently, near the end of the first growth period we frequently notice a heavy shedding of fruits in what is commonly spoken of as the June drop.

On fairly vigorous trees there usually are too many fruits remaining on the tree after the June drop. It is apparent under these conditions that even with a fairly liberal supply of nitrogen and good soil cultural conditions, including ample moisture, peaches will not make desirable commercial size. Under conditions favoring a heavy load of fruit, the leaf area is usually inadequate to manufacture food materials necessary for the best enlargement of all

SEPTEMBER, 1938



**FALL APPLICATION** of Granular AERO Cyanamid has the advantage of getting the job out of the way of Spring work. Moreover, in the Spring unfavorable weather may interfere with applying the nitrogen early enough to produce the best results.

Granular AERO Cyanamid does not leach. Tree roots absorb it and store it up for use in the Spring.

Play safe! Apply Granular AERO Cyanamid to your orchard this Fall, while you still have plenty of help and good weather.

*Get the job out of the way of Spring work*

**Write for Leaflet F-142**



**AMERICAN CYANAMID COMPANY**  
30 ROCKEFELLER PLAZA

NEW YORK, N. Y.

of the fruits.

In the matter of thinning, the question of time logically comes up. We have been carrying on experiments during the past few years to study the effects of early thinning on increase in size of fruit, leaf, and shoot development and fruit bud formation. These studies indicate that on the early ripening varieties reduction in the number of fruits before the June drop has greatly increased the size of the fruits at the end of the first swell. Not only has this early thinning had an effect on the size of the fruit, but there has been an increase in shoot growth and leaf size. With many of the early ripening varieties, this early thinning may prove economically worth while. With later ripening varieties, it is usually the practice to wait until after the June drop and then to remove many of the small sized and imperfect fruits.

It should be recognized that in the last analysis the number of peaches to remove from a tree will depend upon the size of the tree and its bearing capacity. If the tree has the bearing capacity of one to two bushels only the number of peaches that will develop into  $2\frac{1}{4}$  or  $2\frac{1}{2}$  inch size should be left to make up this amount of fruit. When the tree sets uniformly heavy, it is possible to thin to a distance of six to eight or eight to 10 inches. In most cases, however, this cannot be done satisfactorily, so that the leaf area and bearing capacity of the tree should be taken into consideration. It might be that following a freeze all of the live blossom buds are found at the base of terminal shoots. In this case it may be necessary to leave all of these fruits, even though only an inch or two apart, or even touching, if the leaf area is sufficient to take care of this set.

# They changed hands over the Telephone

THE OWNER SAID, "They're as good a bunch of heifers as I ever raised."

The buyer said, "That's good enough for me."

In less time than it takes to tell about it, these Herefords had a new owner.

When time and distance are important, get together by telephone. Many farmers and their families today turn to the telephone when they want to get things done—and done quickly.



## BELL TELEPHONE SYSTEM



## WENTWORTH MILITARY ACADEMY

THE HIGH SCHOOL      THE JUNIOR COLLEGE  
Lexington, Missouri  
(Fully approved by The North Central Association of Colleges and Secondary Schools)

Standards of unimpaired efficiency.

### The Best at Wentworth!

Active Army officers are detailed to assume charge of the Military Department. Religion emphasized, but without sectarianism. Highest standards in education, physical training, athletics, sports, Social life, Glee Club, Band, Orchestra, Dramatic Club, Debating.

#### Catalog

Col. Sandford Sellers, A. M., LL. D., President

PAGE 10

## FRUIT TREES

In a good assortment of varieties, grown by Virginia's Largest Growers. Available for Fall '38 and Spring '39 500,000 Peach and 300,000 Apple, including the outstanding New Varieties, as well as the most popular standard varieties.

Write for a Free Copy of our New 44 Page Planting Guide and New Low Price List.

WAYNESBORO NURSERIES  
WAYNESBORO, VIRGINIA

## NAI CONTINUES EDUCATIONAL PROGRAM

WHEN National Apple Institute's small but energetic treasurer, W. B. Baughman, smilingly reported added financial support at the recent summer meeting of NAI, several factors pointed toward future progress of this apple promotion organization.

As at last winter's meeting in Cincinnati, the St. Louis summer meeting attendance included representatives from every important apple producing section in the nation. These representatives came with word that all regional groups are in favor of a strong national body, a constantly moving force that will carry on an active program for publicity and promotion to the end that King Apple retains his crown.

Among subjects considered was the possibility for establishment of a cull and sub-standard fruit usage laboratory as part of the proposed Federal Regional Laboratories set-up. NAI officers have been active in Washington conferences and in contacting state experiment station directors in an effort to bring about establishment of a fruit by-products laboratory.

Much interest during the one-day meet was centered on Dr. Ira A. Manville's remarks concerning apples and health. Dr. Manville, whose work in the Department of Medicine of the University of Oregon has distinguished him as the country's number one researcher on the place of apples in the diet, explained the reasons why apples have earned their reputation as a health-giving food.

Value of the institute's Clip Sheet, sent regularly to home economists, editors of newspaper and magazine women's pages, and teachers was indorsed by the apple boosters. Concensus of opinion held that such promotional work be continued and amplified as finances permit.

New promotional piece just announced by NAI is a cookbook containing tested recipes. NAI will publish copies of the book and they are available at slight cost to growers' groups or other organizations interested in increased use of apples. Dr. H. E. Barnard, the institute's secretary, says that individual growers and others may place orders for the books, which have a space on both front and back covers for stamping or printing of names and addresses of growers or grower organizations, by writing him at 224 Wimmer Building, Indianapolis, Ind.

Frowned on was the practice of the U.S.D.A. in forecasting fruit prices. Said some in attendance, "Such forecasting has depressing influence on active market prices." Passed as a resolution and forwarded to the Secretary of Agriculture was a request that the tolerance on lead on apples be raised as high as possible in line with a study now being carried on by the U. S. Public Health Service. It was also urged that such action be taken by department authorities in time for the current season's crop of fall and winter apples.

From Truman Nold, Wathena, Kansas, came a plan of financing the organization equalizing responsibility of the various regional groups in proportion to their production. He has prepared and published interesting facts on the apple industry and its possible trends.

As work of the NAI continues it will be directed and carried out through the offices of President Kirk L. Keller, Creve Coeur, Mo., and Secretary Barnard. Next annual meeting of the institute will be at the call of President Keller.

# APS

A PAGE CONDUCTED IN THE  
INTERESTS OF THE AMERICAN  
POMOLOGICAL SOCIETY

## A RESEARCH PROGRAM FOR THE APPLE INDUSTRY

In the August issue it was pointed out by APS President, B. S. Pickett, that a thorough investigation was needed to determine the definite food values of the apple in the diet. In the following installment of his talk at last winter's Springfield, Mo., meeting, Prof. Pickett indicates some of the directions research should take to obtain these scientific facts which will be of real value in helping apple growers dispose of their product.

**O**UTSTANDINGLY, we need further researches on the food values of the apple. I shall have to indicate with a little detail some of the directions in which that research should proceed. For example, we should know what are the differences in the reactions of the human system to different varieties. There are also important differences in the reaction of varieties to methods of cooking. Varieties differ in seasons of maturity; they are different in taste and usefulness and have different chemical content, especially as to relative quantities of minerals, starches, sugars, proteins, fats, and vitamin content at different times from picking maturity to actual time of use. We need to know the food values of apples by their period of maturity. Are they worth more or less in the human diet when first picked, when they arrive at what we would call eating maturity, at the height of their season, or when they begin to decline and become mellow and mealy? What are the effects of differences in maturity upon the food values of this fruit? We want to know the food values by the form in which they are used, as, for example, cooked, raw, evaporated, made into candies, and processed along the numerous lines in which they are capable of being developed.

Second, we want to have further researches on the therapeutic values of apples. It is true that therapeutic values and food values are not inseparable, but the two classifications are studied by somewhat different methods and by turning a different group of scientists loose upon the research work involved. As in food values, we need to know also the therapeutic values of apples by varieties, by period of maturity, by the form used, and by quantities. Perhaps one apple is good and two not so good. The quantity which people of given weights and ages might consume in a 24-hour period has never been investigated with reference to their wholesomeness.

A third line of research should be the relationship of apples to other items of the diet. Everyone knows that pork, in the form of sausage, roasts or chops, and apples go well together. This particular combination has been shown scientifically to be correct dietetically, but many other relationships of a similar kind have never been investigated. Dr. Kellogg says fruits and cereals are the ideal breakfast. It would be a very fine thing if someone discovered by definite experiment the reasons why this combination is good.

Another line of research which must be pushed further is in the improvement of methods of preparing apples. It would be perfectly feasible for home economics experts to correlate variety, method, tempera-

ture, amount of sugar, etc., in developing exact recipes which would work with precision. Making apple pies just right, baking the apples just right, and frying apples just right will go far towards increasing the consumption of this fruit.

The apple industry has done a great deal of speculating on the possibility of developing in a larger way a group of important by-products. We think of vinegar, cider, pectin, and of course, various forms of preserved and dried products; but we have put relatively little thought, effort, and research into developing all the possible by-products of the apple. The apple industry should subsidize research in the field of by-products, and, in connection with it, it would be desirable to encourage the development of mechanical devices which might be perfected to do certain operations helpful in the sale of this particular fruit. The industry needs machines which would press the juice from an apple as the customer stands in front of a counter and watches the clerk behind the counter perform the operation. Rapid progress is now being made in clarifying, filtering, and preserving cider, without losing the delectable flavor which the public wishes to find in cider. The industry needs improved vending machines, cheap containers which avoid bruising the fruit in transit, refrigerated show cases in grocery stores which will keep the apples clean and attractive while they await sale, and numerous other mechanical aids to effective salesmanship.

I recommend research also in certain economic and psychological fields. Questions of which the following are typical need answers. How can low grades be kept from unduly affecting the price of high grades? How can indiscriminate truck peddling be changed so as to benefit the apple business without doing more harm than good? Must the industry accept the hypothesis that commercial apple growing and selling be placed on an out and out competitive price basis in which the philosophy that a high class product can expect a high price is abandoned? Thus far the industry has not accepted the former theory but careful economic studies might show that it may have to do so. I recommend running some experiments in towns and cities of corresponding sizes and other characteristics to determine the effectiveness of advertising campaigns. And, finally, I suggest surveys among consumers to determine their reactions to the use of apples, these surveys to include both home uses and restaurant trade."

*H. L. Lantz*  
SECRETARY

AMERICAN FRUIT GROWER

## BEMIS LENONET BAGS PROVE HEADLINERS AT INTERNATIONAL APPLE ASSOCIATION CONVENTION

### Show Way to Greater Profits



Because it is a known fact that a well-designed package is one of the quickest and best ways to increase retail sales, Bemis Lenonet Bags—the handy, household-size package for apples and other fruits and vegetables—gained wide attention at the recent St. Louis meeting of the International Apple Association.

The power of Bemis Lenonet Bags to increase sales has been demonstrated in thousands of cases . . . sales increases up to 400% have been reported.

Housewives respond immediately to the "see-what-you-buy" appeal of these bags . . . they cannot resist picking up the bags . . . and the contents look so attractive and free from that "picked-over" look that customers sell themselves. In addition, Bemis Lenonet Bags cut waste and spoilage and save time. No wonder these sales-making bags help growers merchandise their better grades more profitably.

Just one trial will convince you. Send for a sample bag today . . . fill it . . . see for yourself the added attractiveness it gives your apples. Send coupon below for sample and full details. No obligation.

### BEMIS BRO. BAG CO.



Bemis Bro. Bag Co.,  
426 Poplar Street, St. Louis, Mo.

Without obligation, send at once samples of the following Bemis Open-Mesh Bags. Also send prices and full details.

Lenonet Apple Bags 5 lb. 10 lb.

Visinet Apple Bags 1/2 bu. 1 bu.

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For complete information send us the coupon below—or use letter, post card, 'phone or wire. Mention this paper and get valuable booklet on diet and health—**FREE**.

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*Enjoy BEAUTIFUL Natural-Looking*

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Dental Plates for men and women  
**60 DAYS' BACK GUARANTEE** YOU'LL BE SATISFIED. Monthly payments possible. FREE month-forms, easy directions and catalog. **WRITE ME TODAY!** C. T. Johnson, Pres. of **UNITED STATES DENTAL COMPANY** Dept. 8485 Milwaukee Ave., Chicago, Ill.

### WINE MAKERS MANUAL

In this book Peyton Boswell reveals every secret he employed at U. S. Winery No. 59 which will benefit the home wine maker or the small winery. Whoever follows the methods described cannot fail to make the best possible wine from the variety of grapes he uses. Written in easy, understandable style. Illustrated. Sent postpaid on receipt of \$1.50.

**AMERICAN FRUIT GROWER**  
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**FIRM-FIT Dental Plates**  
Made in a Modern Laboratory  
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Should fit perfectly—not slip or slide. Workmanship and material **GUARANTEED**. Teeth made from your personal impression, look beautiful. Should last lifetime. **Wear plates 60 days if not delighted with fit and your improved appearance they cost you nothing. MONEY BACK guarantee.** **SEND NO MONEY** Impression material and catalog of **LOW PRICES**. Do it right now! **SUPERVISED BY A DENTIST**

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## OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER. Count each initial and whole number as one word.  
ADDRESS: AMERICAN FRUIT GROWER, 1370 Ontario Street, Cleveland, Ohio

### BASKET TURNERS

PRACTO—NIAGARA. RIGHT PRICES. ALSO GRAVITY and Belt Conveyors. Packing Supplies. **TYSON ORCHARD SERVICE**, Flora Dale, Pennsylvania.

### BERRY BOXES

USE MODERN GREEN AND WHITE BOLLIM Berry Boxes for Fruit and Vegetables. Write now. Liberal Discounts. **BOLLIM BOX COMPANY**, Dept. A, Benton Harbor, Michigan.

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NORTHERN SELECTED, STATE INSPECTED STRAWBERRY plants. Dunlap, Dorsett, Beaver, Blakemore, Fairfax, Premier, 100—85c; 250—\$1.75; 500—\$3.40; 1,000—\$6.50 prepaid. **BRULE VALLEY NURSERY**, Brule, Wisconsin.

CURRENT PLANTS. WHOLESALE PRICES, FALL OR SPRING. **LLOYD BRODER**, Ludington, Michigan.

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75c AN HOUR, NOTHING LESS, PLENTY WORK. Free particulars. **SHUPITA SERVICE**, Whitelaw, Wisconsin.

### CIDER MAKERS' SUPPLIES

CIDER MAKERS' SUPPLIES FOR MORE THAN half a century. Buy Mount Gilead supplies for dependable quality and service. Write for catalog 8301-A and price list. **THE HYDRAULIC PRESS MFG. COMPANY**, 302 Lincoln Ave., Mount Gilead, Ohio.

FOR SALE: 35,000 FRESHLY EMPTIED GALLON glass (white) jugs for cider and juices. 63c each. Corks free with each 10-gross order. **ZIFF BROTHERS**, 209 S. State, Chicago, Illinois.

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CIDER PRESSES, FILTERS, PUMPS, SUPPLIES. Put your cull apples into sweet cider. Booklet F free how to keep cider sweet, make vinegar quickly and what Mr. Purdy did with roadside mill. **PALMER BROS.**, Cos Cob, Connecticut.

MOUNT GILEAD CIDER AND FRUIT JUICE PRESSES have been the choice of Fruit Growers for more than half a century. It is the most complete line of presses on the market. Write for catalog and the new 1938 Price List. **THE HYDRAULIC PRESS MFG. COMPANY**, 304 Lincoln Ave., Mount Gilead, Ohio.

HAND AND POWER—ALSO JUGS—KEGS—BARRELS—Labels—Filters—Pasteurizers—Apple Butter Equipment—Bottle Fillers. **TYSON ORCHARD SERVICE**, Flora Dale, Pennsylvania.

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SAMPLE COPY MONTHLY MAGAZINE, 10c; 3 YEARS \$1. **DAIRY GOAT JOURNAL**, Dept. 803C, Fairbury, Nebraska.

### FOR SALE

110 ACRES, 60 UNDER CULTIVATION. BEARING orchard, good truck and crop, some timber, woodland. New 8-room house, furnished cabins, running water, cabin sites, camping grounds. Scenic road. Grand mountain view. Elevation 3400 feet. Sell for half its value. **HENRY P. CORWITH**, Saluda, North Carolina.

FLORIDA BEAUTIFUL HOME, PRIVATE LAKE, boating grove, edge town, finest citrus section. \$15,000 for \$8500. **W. FRENCH**, Umatilla, Florida.

LARGE CIDER MILL, EXCELLENT CONDITION. Write immediately. **MARK JENEMA** and **TYS FERWERDA**, Falmouth, Michigan.

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FOR SALE: 100,000 WOOD BEER BOXES, FOR field, storage purposes, almost new, capacity approximately one bushel, iron band reinforcement. 9½c each. **ZIFF BROTHERS**, 209 S. State, Chicago, Illinois.

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ALSO WASHERS—CLEANERS—POLISHERS. WAYLAND—Butler—Trescott. Hand and Power. **TYSON ORCHARD SERVICE**, Flora Dale, Pennsylvania.

### FRUIT JUICE CLARIFIERS

THE MOUNT GILEAD PECTINOL COLD PACK Process preserves and clarifies fresh fruit juices, simply, quickly and effectively. Write for complete facts about PECTINOL. It actually increases the sales value of your product. **THE HYDRAULIC PRESS MFG. COMPANY**, 303 Lincoln Ave., Mount Gilead, Ohio.

AMERICAN FRUIT GROWER

### FRUIT JUICE FILTERS

THE MOUNT GILEAD SUPREME FILTER PROVIDES a new principle to insure maximum clarity for cider and other fruit juices. Write for full description. **THE HYDRAULIC PRESS MFG. COMPANY**, 301 Lincoln Ave., Mount Gilead, Ohio.

### HOISIERY

FIVE PAIRS—BEAUTIFUL SILK HOISIERY—\$1.00. Three (Full-fashioned) Pairs—\$1.00. **DIRECTCO**, AF 221W Broad, Savannah, Georgia.

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SPECIALLY FOR ORCHARD USE. ALL STYLED. New wonder 3 leg orchard step. **TYSON ORCHARD SERVICE**, Flora Dale, Pennsylvania.

### MALE HELP WANTED

STEADY WORK—GOOD PAY. RELIABLE MAN wanted to call on farmers. No experience or capital required. Pleasant work. Home every night. Make up to \$12 a day. Wonderful new proposition. Particulars Free. Write **MCNESS CO.**, Dept. 185, Freeport, Illinois.

### MISCELLANEOUS

EVENTUALLY YOU'LL LIVE IN FLORIDA. KEEP in touch with its agricultural opportunities by subscribing to its leading citrus and truck magazine. 50c per year; 3 years, \$1.00. **FLORIDA FARM AND GROVE**, Jacksonville, Florida.

### NURSERY STOCK

FRUIT TREES, VINES, AND PLANTS OF UNEX-CELLLED QUALITY: 500,000 Peach, 200,000 Apple, one and two year; thousands of Pear, Plum, Prune, and Cherry; hundreds of thousands of small Fruit Plants. Large and small planters are invited to write us for our latest FALL Price List. These prices are the lowest in our history and mean a huge saving to our customers. They are Free to you. **BOUNTIFUL RIDGE NURSERIES**, Box C, Princess Anne, Maryland.

HEALTH—WEALTH—HAPPINESS. START SMALL nursery. Grow evergreens, shrubs, flowers. Write **MAYFLOWER NURSERY**, LaPorte, Indiana.

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NEW STYLE BUSHEL SHIPPING CONTAINERS. "Jiffy" Lidders—Stamps, Stencils, Ink—Cushions—Cap-Labes—Liners. **TYSON ORCHARD SERVICE**, Flora Dale, Pennsylvania.

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RAISE PHEASANTS—PROFIT OR PLEASURE. SEND 3c stamp for pamphlet. **RAINBOW FARM PHEASANT-TRY**, Barrington, Illinois.

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FRUIT PICKERS' BAGS, BUCKETS, BASKETS. Largest assortment. Right Price. State quantity. Also Ladders—Orchard Crates—Pickers' Tickets. **TYSON ORCHARD SERVICE**, Flora Dale, Pennsylvania.

### POSITION WANTED

YOUNG MAN, SINGLE, EIGHT YEARS EXPERIENCE fruit farming, wholesale production, clerk, courteous, reliable. Go anywhere. D. H. BRUBAKER, Utterville, Missouri.

EXPERIENCED FRUIT GROWER, 53, SINGLE, wished connection with party wanting a partner. PETER AUBERMAN, Route 1, Wilder, Idaho.

### POULTRY

READ NEW ENGLAND POULTRYMAN! ALTHOUGH local in name, New England Poultryman is read nationally by leading poultry growers because of the high character of its editorial content and its carefully censored advertising. 1 year, \$1; 3 years, \$2. **NEW ENGLAND POULTRYMAN**, 4K Park St., Boston, Massachusetts.

### SERVICE BARRELS

FRESHLY EMPTIED, 8 HOOP, 50-gallon whisky barrels: fine for wine, cider, vinegar, pickles, buttermilk, etc. \$1. 6—35. 20 up 75c each. Ask for carload prices. Call with order please. **SHO-OFF ORCHARDS PRODUCTS COMPANY**, 107 N. Washington, Peoria, Illinois.

# NEW

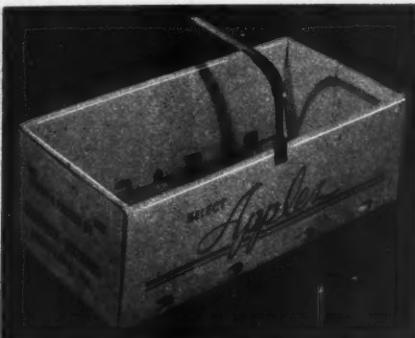
- CONSUMER BASKET
- "PACK-SEE" CARTON
- BOX FACER

By HANDY ANDY

Almost invariably apple packing time brings a host of new items that strive toward providing better, more convenient packs for more profitable sales. Since proper packaging is a major factor in successful marketing, new introductions always receive their share of attention.

## CONSUMER BASKET •

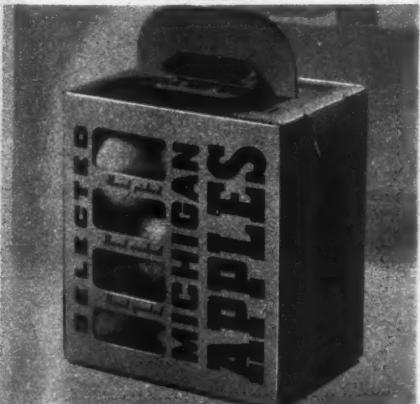
Here's a basket that's made especially for urban consumer trade. Its capacity of 10 pounds provides a convenient amount of fruit for the purchaser. Of rigid paperboard construction, the basket has a metal handle that fits into the wall of the sides, thus preventing bruising so often caused by handles on this type of container. This handle also allows for assembly of the corrugated baskets without stapling. Ample ventilation for packed fruit is provided by vents along the bottom of the basket side walls. Baskets are printed



according to needs of growers, as shown in accompanying photo. Makers of the container claim that enough strength is obtained in the patented construction to allow stacking of the packed baskets and to provide complete protection of fruit. Baskets are shipped knocked down and are easily assembled.

## "PACK-SEE" CARTON •

Tried for the first time last fall by Michigan growers, the paper carton shown



in the photograph below created much interest among growers who saw it on the markets and displayed at meetings. The brightly colored cartons provide visibility by cut-out tops. Each carton holds about a dozen two and one-half-inch apples, and 16 of the individual containers are packed in a large fiberboard box for shipping.

## BOX FACER •

So far, jumble packs have been the rule in most cases for apples packed in boxes. But now comes a facer developed for box



packing that lines up fruit at the box top. Illustration shows cage being pulled from pack after removal of the facer. Special box liners are supplied for use with the facer. Facer and cage make it possible to obtain a tight, neatly-faced pack.

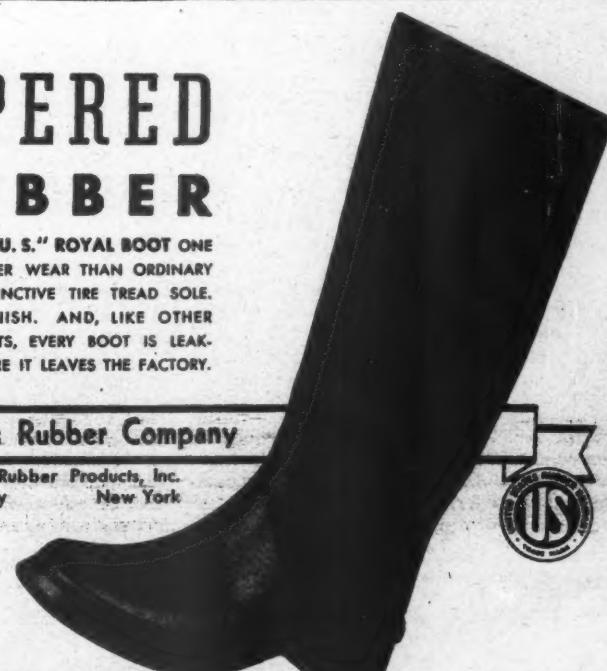
## TEMPERED RUBBER

GIVES THE "U. S." ROYAL BOOT ONE  
THIRD LONGER WEAR THAN ORDINARY  
BOOTS. DISTINCTIVE TIRE TREAD SOLE.  
PIGSKIN FINISH. AND, LIKE OTHER  
"U. S." BOOTS, EVERY BOOT IS LEAK-  
TESTED BEFORE IT LEAVES THE FACTORY.

United States Rubber Company

United States Rubber Products, Inc.  
1790 Broadway  
New York

ASK TO SEE THE  
NEW ROYAL  
RAINCOAT WITH  
PIGSKIN FINISH



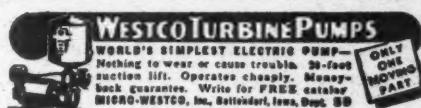
10¢ WORTH OF  
**SANI-FLUSH** WOULD  
KEEP THIS RADIATOR  
**COOL!**



WHEN a radiator gets hot you lose power and you endanger your motor. Costly repair bills may result. Don't take a chance. SANI-FLUSH cleans out car and truck radiators in a few minutes. You can do it yourself without fuss or bother.

Just pour in a little SANI-FLUSH. (Directions on the can.) Run the motor. Drain, flush and refill with clean water. Lime and scale are carried away. Rust and sediment are removed thoroughly. SANI-FLUSH cannot hurt aluminum cylinder heads or motor fittings. You'll find SANI-FLUSH in most bathrooms for cleaning toilets. Sold by grocery, drug, hardware, and five-and-ten-cent stores. 25c and 10c sizes. The Hygienic Products Company, Canton, Ohio.

**Sani-Flush** *Safe* NOT CAUSTIC  
KEEPS RADIATORS CLEAN



# SUCCESSFUL ORCHARDS

● A "ROUND TABLE" PAGE FOR EVERY GROWER ●

## \$1.00

EACH FOR YOUR  
NEW IDEAS

### "SEAL OF QUALITY" BRINGS BETTER PRICES

ON the use of Indiana's recently inaugurated "Seal of Quality" for top-grade fruit, Harry D. Simpson, veteran grower, reports, "When the Seal of Quality was mentioned to me in the spring of 1937 I felt it would be a fine thing if a uniform grade could be secured. When it was finally worked out so that every bushel of fruit must be inspected by a State or Federal inspector, it meant that the contents of each package would be according to the marks. If the fruit was not as marked then the packer would be responsible, under bond.

"Our orchard started using the Seal of Quality label just as soon as the labels were ready. It was used on all of our apples and peaches last season except the portion of our Duchess which had some water core. It was thought best to put no label on anything that was doubtful although the inspector said the fruit would pass inspection.

"I found the chain stores particularly interested in the Seal of Quality and they asked for it from the very start. I think the Seal of Quality brought a little higher price for the early apples and those harvested in September. After October 1 I feel that the Seal of Quality got the preference in sales but no premium. One day a trucker wanted Transparent for 60 cents a bushel but when he saw the label he paid 75 cents and I am sure the label was the reason.

"By using an inspector in three or four orchards I found the expense to be rather light. The presence of inspectors in the packing house several times each day kept the men on their toes grading and packing their best. Very competent inspectors were sent by our Federal-State Fruit Inspection Service and the service was excellent.

"I feel that the present season will popularize the Seal of Quality and the demand for it will be much increased. However, I would urge all who use it to be sure that only quality fruit is packed. I try to pack a little better grade than is required, for I find it pays. I am very much pleased with the progress made by the Seal of Quality in one year and I feel the Indiana fruit growers are on the way to sell much more fruit."

### SOIL FACTORS GUIDE IRRIGATION PRACTICES

"IN one section of our orchard," says Charles Lund, Washington orchard production manager, while discussing irrigation practices, "where the surface formation was of gravel and rock, heavy soil was found underlying this strata. Frequent irrigations of short duration were practiced here. On a low, flat area of heavy soil, sub-irrigation was found. From two to three irrigations per season were all that were required here, and more care was exercised in irrigating the land above, so as to cut down the subbing as much as possible. Shallow soils, underlaid with gravel, were potholed and

Here, each month, growers get together to discuss experiences and ideas. The beginner as well as the veteran discovers many practical suggestions for better and more profitable fruit growing. You, too, have some experiences that will be helpful to fellow growers. Send them—briefly written on a penny card is satisfactory—to "ROUND TABLE EDITOR," AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio. One dollar will be paid for each item published on this page.

slope and then across a flat will not irrigate both areas equally. In order to give the hill sufficient water, the flat was over-irrigated. Having this in mind, every attempt was made to terminate ditches where any drastic change in soil or contour occurred.

"It was found impossible in all cases to make the above changes. Oftentimes there were spotted conditions, such as poor soil, weak trees, etc., that required individual tree care. A special crew of three or four men covered the orchard systematically, digging potholes, fertilizing part or all the trees, and doing everything within reason to remedy weaknesses and put every tree in equally good condition.

"This work has been very interesting and the results gratifying. It is not complete and never will be. Constant vigil must be given to the maintenance of this program and necessary changes as time goes on. The tree condition throughout our orchard is good."

### BLUEBERRIES DO BEST ON LIGHT ACID SOIL

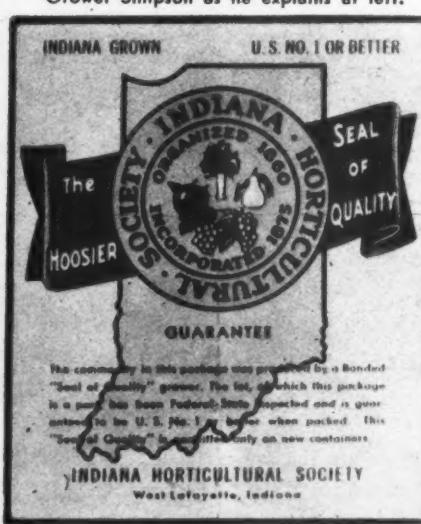
WHILE some of the newer brambles have taken a good share of the small fruits spotlight during the past few years, there has been increased interest among small fruits enthusiasts in blueberries.

George Morse, New York Horticultural Society's president, reports concerning his experiences with blueberries: "The blueberry in my judgment offers the most promising profit of any of our present day fruits. They come into bearing young, are as long lived as an apple tree—75 years and upwards—yield large crops annually, are hardy—having withstood a temperature of 40 degrees below zero—and have even endured several degrees of frost when in full bloom. The blueberry has no thorn, therefore is most pleasant to work around. It does not stool or spread, therefore is easily kept in bounds. Plants are set four feet apart in the row. Cultivation is similar to that for raspberries.

"One question concerning blueberries often asked is: 'What is the difference between huckleberries and blueberries?' The difference is primarily in the seed. Huckleberries have 10 comparatively large seeds like miniature peach pits, which crack between the teeth when eating them, while the seed from the blueberry is so small that you do not distinguish them when eating.

"Blueberries seem to do best in rather light acid soil. It may be either sand, light loam, peat or muck. They do not like a heavy clay or crusting soil. Limestone soils are not suitable for their best production. I have seen them growing and fruiting on soils with a pH reading varying between 3.2 and 5.7. A pH reading of about 4.4 is probably ideal.

"Earlier varieties like Cabot and Adams begin ripening the first days of July in our section. Then follow in succession the Pioneer, Rancocas, Concord, Rubel, and Jersey. The latter two hold some of their fruits until way along into October if allowed to by humans and migrating birds."



## NUT TREE GRAFTING

THE grafting of nut trees is at best a somewhat uncertain matter and frequently even the best of propagators have a discouraging proportion of failures. If the grafting of nut trees could be done as satisfactorily as the grafting of apple trees, nut culture would advance far more rapidly than at present. Consequently the propagation of nut trees is always a live topic of discussion when nut growers get together. At the recent Washington meeting of the Northern Nut Growers' Association several persons presented the results of experimental work in nut tree grafting.

Dr. L. H. MacDaniels of Cornell University in reporting the results of his work stated that the condition and nature of the scion wood was of the greatest importance. In general, better results were obtained from scions cut in the late fall, winter or early spring, than from those cut in late spring even though no visible evidence of growth was to be observed.

The larger and the more vigorous the scion wood, if well matured, the greater the chances of success. With hickories a satisfactory scion was made by using the base of the one-year wood and the tip of the two-year wood, setting the dividing line between the two years' growth on the scion flush with the top of the stock.

Scions were best stored at a temperature of about 32 degrees in an apple storage and covered with slightly moist peat or sphagnum.

Dr. MacDaniels found that the larger stocks, those from one and three-fourths inches to three and one-half inches in diameter were superior to those of lesser diameter. The inlay or back graft was the most successful graft for this type of stock. Cutting off the stock 10 days to two weeks before grafting was an advantage. Grafting in early May or just as the stocks are starting into growth at Ithaca, N. Y., was preferable to grafting later. A dark colored wax was a disadvantage because of increased heat absorption, and paraffin was not satisfactory. Shading the scions with a white bag was essential for success.

Dr. MacDaniels pointed out that failures are all too common in our grafting procedure and that such failures are wholly unexplained on the basis of our present knowledge. More real evidence is needed in which various methods of grafting are directly compared.

The Report of the 1937 meeting is published and has been mailed to all members. Non-members may purchase it for \$1 a copy.—G. L. SLATE, Sec'y, Northern Nut Growers' Assn., Geneva, N.Y.

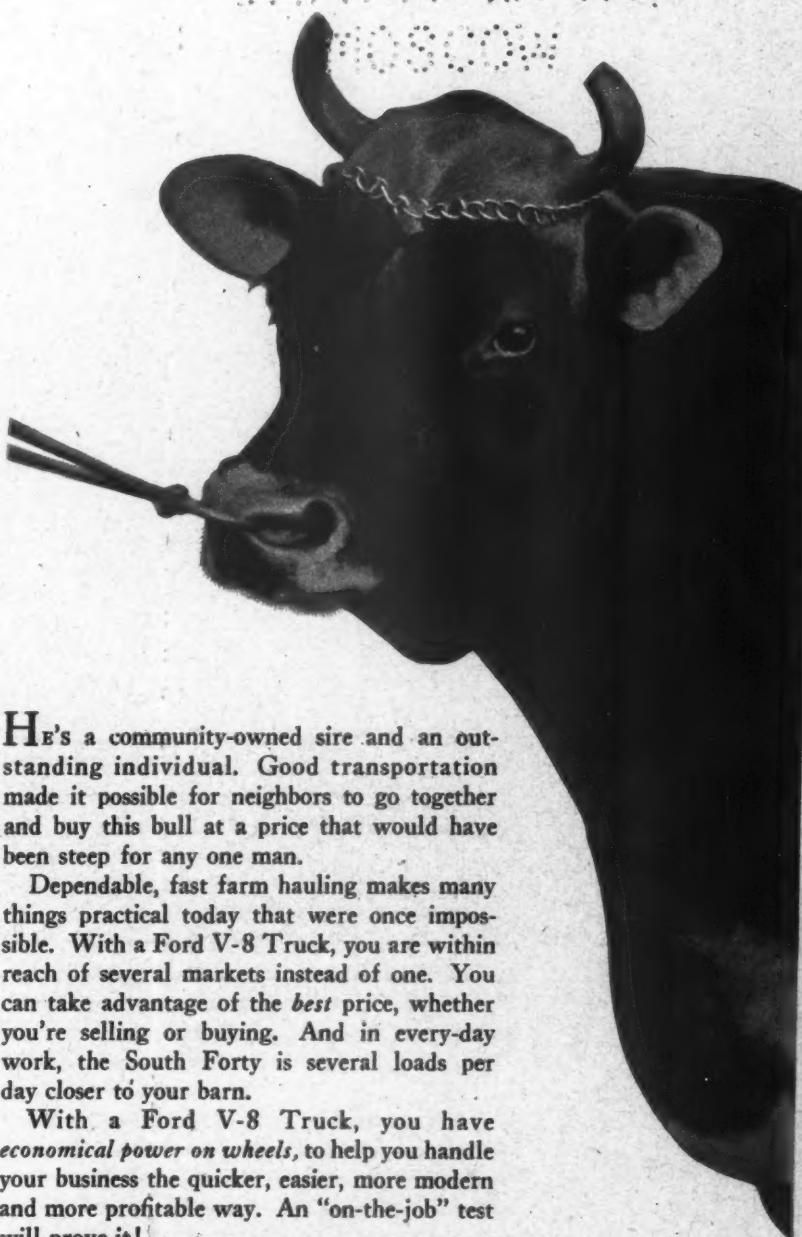
## MARMALADE BASE

(Continued from page 6)

of sweet cherry pulp. Pectin is added to two-thirds the amount required by the added sugar, the sugar to fruit ratio being 50 to 50.

Processing costs are relatively low for marmalade base and the yield is high. Flavor and quality of the finished product should give it popularity, say Isham and Mottern. It is recommended that at present only the marmalade base be manufactured in the Northwest with shipment, while frozen, to preserve makers.

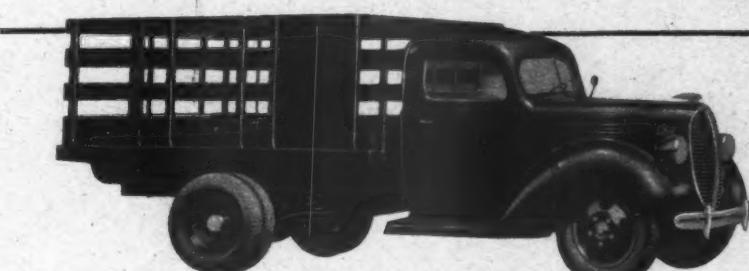
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